AS601 AS602
AS101 AS121 AS121F AS102

Owner's Manual

v 08.jun.2010

Congratulations on your purchase of a Markaudio product!

Markaudio is a division of Parsek srl dedicated to pro audio sound reinforcement solutions. Building on the top-level reputation built up over many years by our industry-leading bass amplification brand Markbass, Markaudio boasts the same high level of innovation and engineering.

The result is groundbreaking sound quality, impressive power, and shockingly light weight.

Markaudio products have been developed by a team of specialists who wrote a chapter in professional audio history. We are proud to manufacture our products in our factory in San Giovanni Teatino, Italy, where we're able to monitor the entire process with obsessive attention to detail, without compromising on any material choices or system components. We are constantly striving to improve our engineering, manufacturing and quality control.

The Markaudio line of PA products is growing in 2010, and some of the new speakers support the optional Markaudio Tuner System, which allows you to use your computer to tune your cabinets to perfection. Anyone who has any experience with live sound reinforcement knows that any PA will sound very different from venue to venue. It's essential to tune the PA to the room—to prevent boominess in a large room, for example, or harshness in a room with highly reflective walls or ceilings. With this innovative PC / MAC software, you can easily tune your Markaudio system to sound great in any type of venue! Usually slight tweaks of 1 or 2 dB at crucial frequencies are all you will need to optimize your sound anywhere.

We invite you to listen and hear the FUTURE, now. I'm quite sure you'll agree… it sounds astounding!

And above all, enjoy the Music!

Marco De Virgiliis
General Manager
www.myspace.com/marcodevirgiliis

WELCOME TO THE WORLD OF MARKAUDIO

1. AS601, AS602, AS101, AS121, AS121F, AS102 - INTRODUCTION

The quality and design of Markaudio cabinets are state-of-the-art.

The AS 601 is equipped with a single 6" speaker and a 1" dynamic compression driver and hyperbolic horn. These small units are fearless!
One listen to this 500W cabinet without a subwoofer demonstrates the 6" speaker's surprising performance.

New for 2010, the updated version of the Markaudio AS 602 cabinet boasts an impressive power rating of 800W (a class D power amp sends 600W RMS to the woofer, and a MOSFET power amp provides 200W for the horn).

The AS 101 is a full-range, active loudspeaker with one light and powerful 10" woofer, and a hyperbolic horn and 1.4" driver designed by Markaudio. An onboard Class D power amp sends 600W RMS to the woofer, and a MOSFET power amp provides 200W for the horn.

The big-sounding AS 121 is an active, full-range loudspeaker with one 12" woofer, and a hyperbolic horn and 1.4" driver designed by Markaudio. An onboard Class D power amp sends 800W RMS to the woofer, and a MOSFET power amp provides 200W for the horn.

New Markaudio AS F cabinets feature ultra-grade felt covering.
The AS 121F is an active, full-range loudspeaker with the same technical specs as the AS 121. It's light and powerful, and delivers a wide frequency response, so you have the option of using it with or without subwoofer support.

The AS 102 is an active full-range loudspeaker with two 10" woofers, and a hyperbolic horn and 1.4" driver designed by Markaudio. An 800W RMS class D power amp drives the woofer, while a 200W MOSFET amp drives the horn. The AS 102 is a real full-range loudspeaker offering unbelievable efficiency and its flexibility makes the AS 102 perfect for a wide range of applications.

-The useful Virtual Sub feature adds power to low frequencies in the 46Hz - 58Hz range when the cabinet is used without a subwoofer.
-The AS 602 (updated), AS101, AS121, AS121F, and AS102 cabinets feature computer connectivity for tuning your cabinets to perfection with the optional Markaudio Tuner System.

2. IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions;
2) Keep these instructions;
3) Heed all warnings;
4) Follow all instructions;
5) Do not use this apparatus near water;
6) Clean only with dry a cloth;
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions;
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatuses (including amplifiers) that produce heat;
9) Do not defeat the safety purpose of the polarized or ground-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet;
10) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus;
11) Only use attachments/accessories specified by the manufacturer;
12) Unplug this apparatus during lightning storms or when unused for long periods of time;
13) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, or when the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped;
14) "Warning: to reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture; and objects filled with liquids, such as vases, should not be placed on this apparatus";
15) The socket outlet shall be installed near the equipment and shall be easily accessible;
16) The power cord must be unplugged prior to servicing.

MORE INFORMATION

For warranty and service information, please contact your local Markaudio distributor (contact information available at www.markaudio.it).
For more technical information, please visit us at www.markaudio.it and fill out the form on the Contact Us page.

We hope you enjoy your active PA cabinet and use it to make great music!

"The Lightning Flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons."

"The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product."

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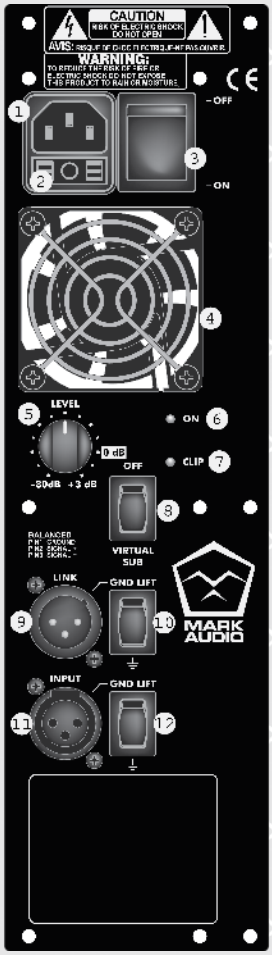
2. PRÉCAUTIONS D'EMPLOI

1) Lire ces instructions;
2) Conserver ces instructions;
3) Suivre tous les conseils d'utilisations;
4) Suivre toutes les instructions;
5) Ne pas utiliser cet appareil au bord de l'eau;
6) Nettoyer uniquement avec un chiffon humide;
7) Ne pas bloquer le système de ventilation. Installer conformément aux instructions du fabricant;
8) Ne pas installer l'appareil près d'une source de chaleur tel qu'un radiateur, un fourneau, ou bien un autre appareil qui produit de la chaleur;
9) Ne pas modifier le système de sécurité de la fiche polarisée ou de de la fiche pour les prises de terre. Une fiche polarisée a deux broches, l'une étant plus distante de l'autre. Une fiche pour prise de terre a deux broches et une pointe pour la masse. La broche plus distante et la pointe pour la masse ont été installées pour votre sécurité. Si la fiche fournie de rentre pas dans votre prise de courant consulter un électricien pour la substitution;
10) Protéger le cordon d'alimentation afin qu'il ne soit pas piétiné ou écrasé tout particulièrement au niveau des fiches, des prises de courant femelles, et des parties qui sortent de l'appareil;
11) Utiliser uniquement les accessoires recommendés par le fabricant;
12) Ne pas branché l'appareil en cas d'orage accompagné d'éclairs. Le débrancher en cas de non utilisation prolongée;
13) S'adresser à un service assistance agréé si l'appareil a subi des dommages, si le cordon d'alimentation ou la fiche a été endommagé, si un liquide a été renversé sur l'appareil ou bien si un object est tombé dans l'appareil, si ce dernier a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas correctement ou s'il est tombé;
14) "Avertissant: pour réduire le risque du feu ou de décharge électrique, n'exposez pas cet appareil à la pluie ou l'humidité et les objets remplis de liquides; tels que des vases, ne devraient pas être placés sur cet appareil";
15) La prise de courant doit être installée près de l'appareil et doit être facile ment accessible;
16) La fiche principale doit être débranchée avant toute opération d'entretien.

3.1 CONTROL PANEL - AS601



POWER JACK (1) - VDE power jack for connecting the power cable from the unit to a wall power source.

FUSE (2) - Fuse housing.

ON/OFF SWITCH (3) - On/off power switch.

COOLING (4) - Forced ventilation stabilizes the working temperature of electronic components for continuous performance, even after a long period of operation. Avoid using the loudspeaker on irregular surfaces that might block the vents.

LEVEL (5) - This control determines the amount of signal that passes through the input stage of the loudspeaker.

ON (6) - Power status indicator LED.

CLIP (7) - Clip indicator LED. This indicator allows you to visually monitor the volume level of the loudspeaker.

VIRTUAL SUB (8) - The Virtual Sub function engages an equalization circuit designed to enhance low frequencies. Virtual Sub is useful when you're not using a subwoofer, and also when you have to operate at low volumes. Virtual Sub decreases the maximum sound pressure in order to extend the frequency response, so use it only when necessary. When you use AS series loudspeakers with one or more subwoofers, Virtual Sub must be switched off.

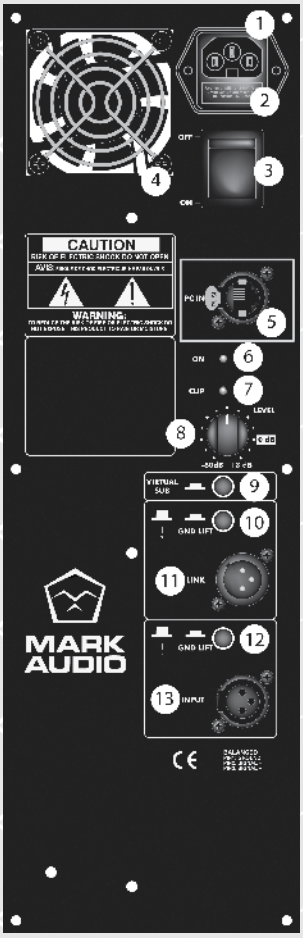
LINK (9) - Line out to connect to another AS loudspeaker downstream of the principal system.

LINK GROUND LIFT (10) - This switch may be needed for the cancellation of hum due to ground loops with other apparatuses.

INPUT (11) - Line input jack for plugging in the audio source. The XLR 3-pole female jack is electronically balanced (hot pole: #2). You can use unbalanced sources only if your cables have pole 3 jumpered to pole 1.
Important: when powering up, turn on your sound source (CD player and mixer, for example) before turning on the Markaudio cabinets. When powering off, turn the cabinets off first.

INPUT GROUND LIFT (12) - This switch may be needed for the cancellation of hum due to ground loops with other apparatuses.

3.2 CONTROL PANEL - AS602 AS101 AS121 AS121F AS102



POWER JACK (1) - VDE power jack for connecting the power cable from the unit to a wall power source.

FUSE (2) - Fuse housing.

ON/OFF SWITCH (3) - On/off power switch.

COOLING (4) - Forced ventilation stabilizes the working temperature of electronic components for continuous performance, even after a long period of operation. Avoid using the loudspeaker on irregular surfaces that might block the vents.

PC IN (5) - OPTIONAL (SOLD SEPARATELY) - RJ45 connector links your cabinet to your computer through the MARKAUDIO PC BOX (sold separately). Thanks to the Markaudio software you can tune the cabinets to any venue, with both 21-band graphic and parametric EQ, modifiable limiter and crossover settings, and more!

ON (6) - Power status indicator LED.

CLIP (7) - Clip indicator LED. This indicator allows you to visually monitor the volume level of the loudspeaker.

LEVEL (8) - This control determines the amount of signal that passes through the input stage of the loudspeaker.

VIRTUAL SUB (9) - The Virtual Sub function engages an equalization circuit designed to enhance low frequencies. Virtual Sub is useful when you're not using a subwoofer, and also when you have to operate at low volumes. Virtual Sub decreases the maximum sound pressure in order to extend the frequency response, so use it only when necessary. When you use AS series loudspeakers with one or more subwoofers, Virtual Sub must be switched off.

LINK (11) - Line out to connect to another AS loudspeaker downstream of the principal system. This 3-pole male XLR jack receives a female XLR plug and sends out a passive signal.

LINK GROUND LIFT (10) - This switch may be needed for the cancellation of hum due to ground loops with other apparatuses.

INPUT (13) - Line input jack for plugging in the audio source. The XLR 3-pole female jack is electronically balanced (hot pole: #2). You can use unbalanced sources only if your cables have pole 3 jumpered to pole 1.
Important: when powering up, turn on your sound source (CD player and mixer, for example) before turning on the Markaudio cabinets. When powering off, turn the cabinets off first.

INPUT GROUND LIFT (12) - This switch may be needed for the cancellation of hum due to ground loops with other apparatuses.

4. TECHINCAL DETAILS

		AS601	AS602
Acoustic Specs			
Sound Pressure	Maximum peak SPL	124 dB	129 dB
Frequency Response	±3dB	67 Hz - 20 kHz	64 Hz - 20 kHz
Frequency Range	±10dB without Virtual Sub	63 Hz - 20 kHz	58 Hz - 20 kHz
	±10dB with Virtual Sub	48 Hz - 20 kHz	45 Hz - 20 kHz
Dispersion	Hor. x Vert.	90° x 60°	
Loudspeakers	Woofer LF	1 x 6"	2 x 6"
	Coil	Neodymium	
	Driver HF	1"	
	Horn	Hyperbolic	
Electrical Specs			
Amp	Type	MOSFET Class A/B	Class D + MOSFET Class A/B
	RMS Power	500W @ 4Ω	600W @ 4Ω + 200W @ 4Ω
	Slew Rate	15V / µs	
	THD	< 0.1%	
	Cooling	Forced air	
Protections		Thermal	
		Limiter	
		DC Current	
		Short Circuit	
			DSP Dynamic Filtering (OPTIONAL)
Crossover	Active	2.3 kHz	2.5 kHz
Input	Sensitivity	800 mV balanced	
	Impedance	22 kΩ	
AC supply	Type	Switching	
	Voltage	100V; 120V; 230V; 240V 50/60Hz (Voltage is factory preset according to region of sale). Markaudio loudspeakers are manufactured to be sold and used in the country of purchase, and are factory preset to that country's voltage. Due to homologation issues, the voltage may not be changed. NOTE: Check the voltage setting of your apparatus before plugging in the power cord.	
	Power absorption (medium)	350W	400W
	Power absorption (max)	700W	1050W
Controls and connections			
Controls		Virtual Sub	
		Level	
		Gnd In - Gnd Out lift	
Indicators		Power On	
		Clip	
Connections		Line In (XLR)	
		Line Out (XLR)	
			Computer Connection (RJ45) - OPTIONAL
		AC In (VDE)	
Construction features			
Cabinet	Material	Multi-ply poplar	
	Finish	Textured paint	
	Colour	8022 Brown	
	Protection grill	Nickeled metal	Black Opaque Painted Metal
Handles	Quantity	1	
	Position	Rear	
Hardware fitting		adapter for 35mm pole	
		-	3 x M10 nut on top side
Dimensions	Width	225 mm / 8.86"	290 mm / 11.42"
	Height	356 mm / 14.02"	508 mm / 20"
	Depth	435 mm / 17.13"	421 mm / 16.57"
Weight		9 kg / 19.84 lbs	12.5 kg / 27.56 lbs

AS101	AS102	AS121	AS121F
129 dB	132 dB	130 dB	
62 Hz - 20 kHz	60 Hz - 20 kHz	65 Hz - 20 kHz	
58 Hz - 20 kHz	56 Hz - 20 kHz	58 Hz - 20 kHz	
46 Hz - 20 kHz	45 Hz - 20 kHz	46 Hz - 20 kHz	
90° x 60°			
1 x 10″	2 x 10″	1 x 12″	
Neodymium			
1.4″			
Hyperbolic			
Class D + MOSFET Class A/B			
600W @ 4Ω + 200W @ 4Ω	800W @ 4Ω + 200W @ 4Ω		
15V / µs			
< 0.1%			
Forced air			
Thermal			
Limiter			
DC Current			
Short Circuit			
DSP Dynamic Filtering (OPTIONAL)			
1.5 kHz		1.2 kHz	
800 mV balanced			
22 kΩ			
Switching			
100V; 120V; 230V; 240V 50/60Hz (Voltage is factory preset according to region of sale). Markaudio loudspeakers are manufactured to be sold and used in the country of purchase, and are factory preset to that country's voltage. Due to homologation issues, the voltage may not be changed. NOTE: Check the voltage setting of your apparatus before plugging in the power cord.			
350W	450W		
700W	1050W		
Virtual Sub			
Level			
Gnd In - Gnd Out lift			
Power On			
Clip			
Line In (XLR)			
Line Out (XLR)			
Computer Connection (RJ45) - OPTIONAL			
AC In (VDE)			
Multi-ply poplar			
Textured paint			Felt
8022 Brown			Black
Black Opaque Painted Metal			
2			
Rear	Sides		
adapter for 35mm pole			
3 x M10 nut on top side			
290 mm / 11.42″	290 mm / 11.42″	353 mm / 13.9″	382 mm / 15.04″
509 mm / 20.04″	761 mm / 29.96″	587 mm / 23.11″	597 mm / 23.5″
428 mm / 16.85″	428 mm / 16.85	439 mm / 17.28″	421 mm / 16.57″
14.9 kg / 32.85 lbs	20.5 kg / 45.19 lbs	22.2 kg / 48.94 lbs	24.4 kg / 53.79 lbs

Product specifications are subject to change without notice.

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